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DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

6529

May 14, 2015

Certified Mail 7010 1670 0001 4810 3447

William G. Gibbs
Green Rive Resources Inc.
201 South Main Street, Suite 1800
Salt Lake City, UT 84111

Subject: Third Review of Notice of Intention to Commence Large Mining Operations, Green River Resources Inc., Bruin Point Mine, Carbon County, Utah, M/007/0040, Carbon County, Utah

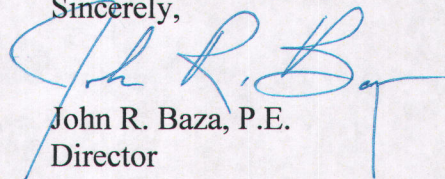
Dear Mr. Gibbs:

The Division of Oil, Gas and Mining (Division) has completed a review of the referenced Notice of Intention to Commence Large Mining Operations (NOI) which was received March 17, 2015. The attached comments will need to be addressed before tentative approval may be granted.

Unlike previous reviews, this review is divided into two sections. The first section, consisting of 38 items, includes regulatory and consistency requirements. The second section with 12 includes recommendations and comments that would improve the NOI such as formatting concerns and comments. Distinctions between these classifications are sometimes difficult, so the Division asks that you go through both sections of the review. Under each comment, the Division has bolded the specific items that need to be addressed. Most of the comments include further explanation.

The Division will suspend further review of the Notice of Intention until your response to this letter is received. If you have any questions in this regard, please contact Paul Baker at 801-538-5261 or Wayne Western at 801-538-5263. Thank you for your cooperation in completing this permitting action.

Sincerely,


John R. Baza, P.E.
Director

JRB:whw:er

Attachment: (1) Review

Cc: Dan Hall, DWQ

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Third Review
Page 2 of 11
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THIRD REVIEW OF NOTICE OF INTENTION TO COMMENCE LARGE MINING OPERATIONS

Green River Resources Inc.
Bruin Point Mine
M/007/0040
May 14, 2015

General Comments:

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
1	Figure 5	The disturbed area is designated with a blue color, but the highwall is not shown in blue. Please include the highwall as part of the disturbed area.	whw	
2	Figure 5	The mine vent is not shown to be in the disturbed area. Please show the approximate disturbed area that will be associated with the mine vent.	whw	
3	Figure 14	The label for the portal pad in Figure 14 needs to point to the location of the portal pad.	whw	
4	Figures 7 and 8 and Figures 2-4 in Appendix G	Please label the lines in and around the tailings area or show what they are in the legend. If these are intended to be contour lines, they should match with existing contours.	whw	
5	Figure 5	In the detailed surface facilities section please either 1) show the locations of drainage control features, such as perimeter berms, ditches, culverts and sediment traps, or 2) include a commitment to provide as-built drawings after they have been constructed.	whw	
6	Appendix G Map2-5	Please make the contour elevations large enough to read or include maps of a larger scale.	whw	
7	Figure 5	Figure 5 shows a point at which a new road begins, and it appears this label is pointing to the existing road rather than a new road. The haul road—which is new—is on both sides of this point. Please correct this label or include clarification.	pbb	

R647-4-105 - Maps, Drawings & Photographs

105.3 - Drawings or Cross Sections (slopes, roads, pads, etc.)

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
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Third Review
Page 3 of 11
M/007/0040
May 14, 2015

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
8	Appx G, Map 2 (and other maps where shown)	The alignment of the "Mine Road" shown on the map does not minimize disturbance (UCA 40-8-2 (2)). This road alignment unnecessarily cuts through previously undisturbed forested area on the east side of the ridgeline. There is an existing road on top of the ridge (Patmos Ridge Road) that should be incorporated into the road alignment. Using the existing road would decrease the total disturbed area.	mpb	
9	Appendix G, Maps 3 and 8	The cross sections on Map 8 need to match the contours on Map 3 to which Map 8 refers.	pbb	

106.2 - Type of operations - mining method, onsite processing, deleterious or acid-forming materials

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
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Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
10	Omission This comment also relates to R647-4-110.4	<p>R647-4-106 states “The operator shall provide a narrative description...of the proposed operations including: . . . 2. Type of operations to be conducted, including the mining/processing methods to be used on-site, <u>and the identification of any deleterious or acid forming materials</u> present or to be left on the site as a result of mining or mineral processing” (emphasis added).</p> <p>The list of twelve chemicals provided as part of the groundwater sampling and analysis plan includes at least nine chemicals that require reporting under section 312 of the Emergency Planning and Community Right-to-know Act (EPCRA) and at least six chemicals listed as hazardous under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Based on this information, the Division considers the solvent to be a deleterious material as defined in the rules. Providing a list of twelve chemicals and stating that the solvent includes three of the listed chemicals presents such a degree of uncertainty that it fails to satisfy the requirement to identify all deleterious chemicals.</p> <p>Prior to approval of the NOI the operator must identify deleterious materials to a sufficient degree that the Division can reasonably determine the risk of harm to the public health and safety associated with the use of the materials (R647-4-111(1)), and to determine that the materials can be safely removed or left in a conditions such that adverse environmental effects are eliminated or controlled (R647-4-111(4)). The Operator must provide sufficient information and analysis to support a reasonable conclusion that no possible combination of the twelve chemicals in any possible concentrations will result in adverse environmental effects during any reasonably predictable events such as spills, failures of dikes, or other water containment systems, failures to fully comply with the mining and reclamation plan, or reasonably anticipated post mining use and events. Providing the specific chemical identification of the components and concentrations or ranges of concentration during mining will greatly facilitate this determination. The Operator may request that this information regarding these materials and their methods of use be protected and kept confidential as a trade secret under existing Utah Law.</p> <p>The last paragraph in Section 9.2 (Exceptions) of the License Agreement says, “...a receiving Party may disclose portions of Confidential Information, with written permission from the other Party, to... auditors, lenders and regulators having a legitimate need or right to know, and which have agreed to be bound by the obligations of confidentiality herein, or by separate agreement with equal or greater restrictions, in which event the receiving Party will make a reasonable effort to minimize the amount of information disclosed and to cause such persons to maintain the confidentiality of the information disclosed.” The Division is a regulator with a legitimate need or right to know.</p>	mpb	

R647-4-109 - Impact Assessment

109.1 – Projected impacts to surface & groundwater systems

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
11		<p>North Spring, Range Creek and Tributary Spring:</p> <p>The Division previously requested a mitigation plan in the event that the springs are impacted by mining operations. North Spring has a flow range of 2-40 gpm, while Tributary Spring has an estimated flow of 5 gpm. The toe of the proposed dry tailings impoundment is located approximately 150 feet northwest of the outfall for North Spring. The dry tailings impoundment valley has been identified as an important recharge zone for groundwater from both rainfall and snowmelt.</p> <p>According to the mine plan, the dry tailings dump will be emplaced in phases, allowing for bare ground to be exposed in order to allow for recharge. The tailings impoundment will be clay lined at the bottom and eventually capped with a clay surface at the end of year 6, the estimated life of the dry tailings dump. At that point the mine plan says that water "will again be available and contribute runoff available into the shallow groundwater system."</p> <p>Nevertheless, even after reclamation when groundwater flow will be reestablished, the Division's concern is that disrupting the natural groundwater flow regime with the construction of a clay liner puts the springs at risk for drying up.</p> <p>The mitigation plan commits to monitoring these springs and placing up to four guzzlers in the vicinity of the springs. The Groundwater Discharge Permit provided by the operator did not include the monitoring plan for these springs.</p> <p>The NOI needs to include a plan to monitor flow rates in these springs to determine if there are impacts both during operations and reclamation of the tailings pile. This should be done for at least five years after reclamation of the dry tailings impoundment. If, at that time, impacts have been identified at that time, guzzlers or another mitigation option may be considered.</p>	aa	

R647-4-110 - Reclamation Plan

110.2 – Reclamation of roads, highwalls, slopes, impoundments, drainages, pits, piles, shafts, adits, etc.

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
12	Pages 81-82 and bonding worksheet	Page 2 in the earthwork portion of the reclamation cost estimate indicates two feet of soil will be replaced, but the text says 220,000 cubic yards of soil will be salvaged for an average of 11.2 inches. Please resolve this discrepancy.	whw	
13	Reclamation Plan	The reclamation cost estimate (page 5 of 5 in the earthwork costs) includes costs for a dozer, a scraper, and a grader for placing four feet of clay over the tailings. In a situation where the Division had to reclaim the site, the Division would need to do this portion of the reclamation, including <i>obtaining</i> gravel for the capillary barrier and clay for the cap. Please include a cost estimate for acquiring these materials and detail how the estimate is obtained. The Division would not get the clay and gravel through processing the ore.	pbb	

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
14	Reclamation Plan and page 3 of 5 bond worksheet	In table 110.5.1 the NOI shows a total of 160 acres that will be ripped, but on page 3 of 5 in the earthwork portion of the reclamation cost estimate only 11 acres associated with roads would be ripped. Please resolve this apparent discrepancy.	whw	
15	Page 75	On page 75 the NOI mentions armored drainage channels, and these need to be included in the cost estimate.	whw	

110.4 - Description or treatment/location/disposition of deleterious or acid forming materials, including map

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
16	(Previous comment #53)	The submitted response to this comment says the information requested is "found in the QAPP/SAP, found in the Groundwater Discharge Permit, Appendix F." It appears this statement should refer to Appendix E. The QAPP & SAP are located in Appendix F by themselves on the CD included with the NOI. The hard copy of the NOI submittal says the Groundwater Discharge Permit is in Appendix E, but Appendix E has the SWPPPs and the Corps of Engineers Wetland Delineation concurrence. The hard copy Appendix F has the material safety data sheet. Appendix F on the CD does include the materials indicated on the comment response sheet. Please coordinate these locations within the NOI.	mpb	
17	Attachment 1 to the Construction General Permit, Section 2, Fill Materials	The QA/QC sampling and chemical analysis of dried material before it goes onto the tailings pile requested by DOGM would serve both the Division and the operator. This Attachment calls it "Acceptance Testing," but this testing includes no analysis for solvent or bitumen contamination before going onto the pile. A well-run mineral processing/beneficiation facility routinely uses QA/QC sampling and analysis to optimize plant efficiency, provide the highest grade of product with minimal loss to tailings, monitor reagent usage, and control costs of operations. In turn this sampling would help minimize the chance of having solvent- or bitumen-contaminated tailings deposited on the tailings pile, as well as assure compliance with the 25 ppm contamination level in the sand. Please include periodic sampling and chemical analysis of tailings sand for the "Potential Proprietary Solvent Constituents" prior to deposition onto the pile.	mpb	

R647-4-113 – Surety

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
18	Figure 5 and Demo Costs	Please list the storage buildings as Storage Building #1 and Storage Building #2.	whw	
19	Figure 5 and Demo Costs	Please be consistent in the name for the Truck Dumping Building. On Figure 5 it is the Truck Dumping Building, and in the demolition costs it is the Truck Dumping/Loading Building.	whw	

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action								
20	Figure 5	On Figure 5 or an equivalent map, please show the structures that will be located in the portal area, such as raw water tanks, diesel tanks and gasoline tanks.	whw									
21	Figure 5 and Demo Costs	Please be consistent in the name for the Bitumen Emission Control Building (Figure 5) and Emission Control Building (demo costs).	whw									
22	Figure 5 and Demo Costs	<p>There are apparent discrepancies between the cost estimate and the maps concerning water tanks.</p> <table><tr><td>Fig. 5 and App. G Fig. 4</td><td>Cost estimate</td></tr><tr><td>3 fire suppression tanks at plant</td><td>2 fire suppression tanks at plant, 1 at portal</td></tr><tr><td>1 raw water tank at plant</td><td>3 raw water tanks</td></tr><tr><td>1 water recycle tank at plant</td><td>Not listed</td></tr></table> <p>Please resolve these apparent discrepancies. The Division assumes the “portable” water storage tank in the cost estimate is the “potable” water tank at the plant, and that the two water supply tanks at the portal equate to the two water tanks listed in the cost estimate.</p>	Fig. 5 and App. G Fig. 4	Cost estimate	3 fire suppression tanks at plant	2 fire suppression tanks at plant, 1 at portal	1 raw water tank at plant	3 raw water tanks	1 water recycle tank at plant	Not listed	whw	
Fig. 5 and App. G Fig. 4	Cost estimate											
3 fire suppression tanks at plant	2 fire suppression tanks at plant, 1 at portal											
1 raw water tank at plant	3 raw water tanks											
1 water recycle tank at plant	Not listed											
23	Figure 5 and Demo Costs	Please show and list the costs to remove culverts in the surface facilities area.	whw									
24	Figure 5, Appendix G Figure 4 and Demo Costs	<p>The demo costs and Appendix G Figure 4 are not consistent concerning equipment at the portal face up areas. Please provide clarification.</p> <p>Is the parts office on Figure 4 the same as the portable office in the cost estimate?</p> <p>Gas tanks: Figure 4 shows 2, the cost estimate shows one at the portal.</p> <p>The crushers not in the cost estimate. Though these are portable crushers, the Division would incur a cost to remove them.</p>	whw									
25	Page 4 of 5 Earthwork	<p>This page shows work being done by an excavator and a dozer, but no task is shown. Please indicate what task is associated with the costs on this page.</p>	whw									
26	Demo Costs Bitumen Storage Tank (4) P 15	<p>Page 16 the NOI says there will be four 5,000-barrel (standard barrel size is 42 gallons, so the total is 210,000 gallons) bitumen storage tanks on site. On page 77 the tanks are 250,000 gallons. The only cost for disposal is the scale fees; please include transportation. Please include information and associated costs about how the tanks will be removed from the site. Will they be dismantled, or can they be removed intact? Sludge removal (02 65 10.30 0823) refers to a 3,000-gallon tank, not a 210,000-gallon tank. Such tanks should be in a secondary containment structure. Please include costs for demolition and disposal of the secondary containment structure.</p>	whw									
27	Demo Cost	<p>Water Recycle Tank: No concrete pad is shown in the cost estimate. If there will be a concrete pad, demolition and disposal need to be included in the cost estimate.</p>	whw									

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
28	Demo Costs Section 110.3	Bitumen Solvent Storage Tank in Section 110.3 is called Solvent Storage Tank in the cost estimate. Please make sure the names are consistent. No cost is included for concrete demolition. Such a tank should be in a secondary containment structure. The sludge removal costs are for a 3,000 gallon tank, not a 31,500 gallon tank. The cost estimate only includes costs for disposal of sludge from the solvent storage tank. Please include costs for removal and disposal of the solvent, storage tank, and any secondary containment structure and provide the bases for these costs.	whw	
29	Demo Costs	Potable Water Storage Tanks: No concrete pad is shown in the cost estimate. If there will be a concrete pad, demolition and disposal need to be included in the cost estimate.	whw	
30	Demo Costs	Please include costs for disposal of transformers and other electrical equipment that are associated with the substation.	whw	
31	Demo Costs	There was no mention of concrete associated with the raw water tanks. If there will be a concrete pad, demolition and disposal need to be included in the cost estimate.	whw	
32	Demo Costs	There was no mention of concrete associated with the Bitumen Solution tanks. If there will be a concrete pad, demolition and disposal need to be included in the cost estimate.	whw	
33	Demo Costs	There was no mention of concrete associated with the diesel tanks which should have secondary containment. Will the tanks sit on concrete? If so, the cost estimate should include a line item for demolition and disposal of the concrete. There should be two containment units, one for the mine and one for the portal area.	whw	
34	Demo Costs	There was no mention of concrete associated with the gasoline tanks which should have secondary containment. Will the tanks sit on concrete? If so, the cost estimate should include a line item for demolition and disposal of the concrete. There should be two containment units, one for the mine and one for the portal area.	whw	
35	Demo Costs Section 110.3	The demo costs show the Emission Control Building. In Section 110.3 it is called the Bitumen Emission Control Building. Please be consistent on all names.	whw	
36	Table 110.3.2	There are several structures listed on Table 110.3.2 that are not included in the reclamation cost estimate. Please include them.	whw	
37	Demo Costs Process Flow Sequence	Several items in the process flow sequence flow sheet are not listed in the demo costs. Those items include, but are not limited to, solvent stripping distillation unit, oil/solvent filtration, secondary fines separation, solids drying and solvent evaporation unit. Please include costs to remove these items or show that they were covered in other costs.	whw	
38		Please include a cost estimate to remove and dispose of bitumen.	whw	

Recommendations and Comments

1	Pg. 2	Please list the name of the registered Utah agent.	whw
2	Page 5 Section 105.2 or Table of Contents	In at least one of these sections please list the detailed contour maps that show the surface facilities in Appendix G. Unless someone is extremely familiar with the plan they would not know to look in Appendix G for detailed maps.	whw
3	Map 3 App G	From Nov 21, 2014, review: Add the maximum slope angles, i.e. "max 2H:1V". New comment 03/30/2015 – Statement was added, but the slope designation was added under the bar scale. Either change the statement under the bar scale to read "2H:1V maximum slopes" or move "2H:1V max" to the figure and add an arrow to the post mining topography line.	lah
4	Figure 16 & Map 4 App G	From Nov 21, 2014, review: The figures do not match. New comment 03/30/2015 – Please fix Metric/English discrepancy on Map 4. English is H:V and Metric is V:H. The NOI is written in English units. On Section A-A, please distinguish between A and A' by adding A' to both the section and plan view. In addition it appears the "pre-mining topo" is mislabeled on the section.	lah
5	Appx G, Map 2	(Response recommended but not required.) On the west side of the ridge, the access leading to the portal area drops down extremely steeply (~25% grade) and then flattens out to run along contour to the portal area. The alignment should have a more gradual and continuous incline from the portal area up to where it can merge with the existing Patmos Ridge Road.	mpb
6	Figures 4&5	The exploration drill hole is currently covered under the Bruin Point Mine exploration permit E/007/0011. Please indicate that area is covered under a separate permit. This is important to avoid confusion about what areas are covered under what permits.	whw
7	Pg. 72	The original comment #42 is adequately addressed. However, there appears to be a typo in the text referring to a "SCPP." Based on the context of the subject matter being discussed, the Division believes this is supposed to be "SPCC", Spill Prevention, Control and Countermeasure Plan.	mpb

8	Pg. 39	<p>From the April 8, 2014, review: The third paragraph on this page states that annual precipitation is estimated at 12.5 inches with another 20 inches of snow. Snow is precipitation. An “average annual precipitation” value is a combination of rain and snow. The snow water equivalent is commonly about one inch of water for every ten inches of snow. So if read as-is, this paragraph basically says the average annual precipitation is about 14.5 inches (12.5 inches of rain and 2 inches of snow-water).</p> <p>This estimate contradicts the precipitation values provided in Table 106.5.1 on page 17. The latest PRISM data also estimates annual precipitation at 23-25 inches. Please correct or explain the discrepancy and adjust accordingly any conclusions that may have been based on the original estimate.</p> <p>The annual precipitation estimate in the last paragraph on page 44 appears to have been revised downward to 10.12”. This is in direct contrast to what other data indicates, including that listed in the soils report in Appendix B, where soil type mean annual precipitation ranges from 16”-30”, with a weighted average of approximately 22”-24”.</p> <p>(No response is needed.) The Division accepts the response to this comment with reservations. The data used remains highly problematic in that it is inconsistent with several published data sources showing much higher predicted annual rainfall for the mine area. The existing vegetative community and density indicate much higher precipitation in the area than the value used in site planning. The low rainfall data used is also inconsistent with the proposed list of plant species for revegetation, in which most of the species require higher rainfall and moisture for successful establishment. Since the site is located at a high altitude where orographic effects tend to produce more precipitation than surrounding lowlands, it is questionable that the short-term data presented would show annual precipitation rates typically found in lower desert-like areas.</p>	mpb
9	Figure 5 and other maps	(Response recommended though not required.) The existing road (assumed to be a County road) goes through the processing facilities. Should the road be routed around the facilities so the public is not driving through that area?	pbb
10	Page 35	<p>From April 8, 2014, review: The surface map refers to Colton and Flagstaff formations, and the text refers to the Wasatch formation. Please provide an explanation in the text.</p> <p>From Nov 21, 2014, review: The inconsistencies have been corrected, but the description of the geologic units has also been eliminated. Please re-insert the descriptions of all the geologic units shown on Figure 13 and 13A.</p>	lah
	Page 45	New comment from page 45, paragraph 3 – Refer to “Geologic Map - Figure 13.”	lah

11	Pg. 83	(No response needed.) As noted previously in Section 109.1, the proposed planting and seeding list is contraindicative of the annual precipitation used for other purposes in the NOI and for UDWQ. The plant list is dominated by species that are more likely to survive with more than 10 inches of annual precipitation, but the Division accepts the plant list is accepted as-is because the it feels it is correct for what we believe is a more realistic long-term average annual precipitation amount for this area.	mpb
12	Figure 5	Figure 5 should reference Figure 4 of Appendix G for the facilities to be located at the mine portal.	whw

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WILLIAM G GIBBS

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SALT LAKE CITY UT 84111

PS Form 3800, August 2006

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